Ch 19.1 to 19.3

CHAPTER 19 **Study Guide**

Key Concepts

19.1 Acid-Base Theories

- Acids taste sour, bases taste bitter and feel slippery. Both are electrolytes and cause indicators to change colors.
- In an aqueous solution, an Arrhenius acid yields hydrogen ions and an Arrhenius base yields hydroxide ions.
- A Brønsted-Lowry acid is a hydrogen-ion donor; a Brønsted-Lowry base is a hydrogen-ion acceptor.
- A Lewis acid is an electron-pair acceptor; a Lewis base is an electron-pair donor.

19.2 Hydrogen Ions and Acidity

- For an aqueous solution, the product of $[H^+]$ and $[OH^-]$ equals 1×10^{-14}.
- On the pH scale, 0 is strongly acidic, 7 is neutral, and 14 is strongly basic.
- The acid and base form of an indicator have different colors in solution.

19.3 Strengths of Acids and Bases

- The stronger an acid is, the larger its K_a value.
- To find K_a of a weak acid or K_b of a weak base, substitute the concentrations of the substances into the equilibrium expression.

Good Practise -p 625 and

worksheets

PLEASE REVIEW THEORY

Vocabulary

- acid dissociation constant (K_a) (p. 607)
- acidic solution (p. 595)
- alkaline solution (p. 595)
- amphoteric (p. 592)
- base dissociation constant (K_b) (p. 608)
- basic solution (p. 595)
- pH (p. 596)
- conjugate acid-base pair (p. 591)
- conjugate base (p. 591)
- diprotic acid (p. 588)
- hydronium ion (H_3O^+) (p. 591)
- ion-product constant for water (K_w) (p. 595)
- Lewis acid (p. 592)
- Lewis base (p. 592)
- monoprotic acids (p. 588)
- neutral solution (p. 595)
- strong acid (p. 605)
- strong base (p. 608)
- conjugate acid (p. 591)
- triprotic acid (p. 588)
- weak acid (p. 605)
- weak base (p. 608)
- self-ionization (p. 594)

Calculations-STRONG acids and bases-Long worksheet

Calculations with WEAK acids and bases-sideways-long sheet

Identifying A's and B's using B-L

Indicators-using them to predict pH

Using the Acid/Base Table

5 Step process

Strong versus weak and Dilute versus concentrated

Format: multiple choice, calculation, fill in blank and short answer.